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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,218	09/21/2000	Jae-hun Lee	SAM-143	9230

7590 09/16/2003

Mills & Onello LLP  
Eleven Beacon Street Suite 605  
Boston, MA 02108

EXAMINER

TRAN, TRANG U

ART UNIT PAPER NUMBER

2614

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

*Am*

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/666,218	LEE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Trang U. Tran	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-24 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-24 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \*    c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 10-13, drawn to an optical driver, classified in class 398, subclass 183.
  - II. Claims 14-18, drawn to an optical receiver, classified in class 398, subclass 192.
  - III. Claims 19-24, drawn to a data restoration and skew compensation unit, classified in class 714, subclass 700.
2. The inventions are distinct, each from the other because of the following reasons:  

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as an optical driver and does not require the particular such as a bias circuit for receiving a predetermined amount of current from a power supply voltage and generating first and second bias currents; a current-to-voltage converter for sourcing a current in response to the first bias current and converting a current signal received from the reception photo diode into a differential voltage signal; an amplifier for sourcing a current in response to the first bias current and amplifying the differential voltage signal to obtain first and second differential output signals; a duty compensator realized with different comparators having a current summing structure in which output currents are summed, the duty compensator for sourcing a current in response to the first bias

current and comparing the first differential output signal with a first reference voltage and the second differential output signal with a second reference voltage to obtain first and second output signals which correspond to the compared results; and a level converter for sourcing a current in response to the second bias current and digitalizing the first and second output signals by converting the voltage levels of the first and second output signals of invention II. See MPEP § 806.05(d).

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as an optical driver and does not require a first latch unit for latching received serial data in units of  $n+N-1$  (where  $N$  is a positive integer greater than or equal to 3) bits in parallel in response to the first through  $n$ -th non-overlapped clock signals, and for outputting  $N$   $n$ -bit latched state data having the time difference of a predetermined offset therebetween; a second latch unit for latching in parallel the  $N$  state data in response to an  $X$ -th ( $1 < X < n$ ) non-overlapped clock signal having the greatest timing margin among the first through  $n$ -th non-overlapped clock signals; and a synchronizer for outputting state data from which the synchronous signal is detected, among data latched by the second latch unit, as restored information data, in response to a predetermined synchronous existence signal and the  $X$ -th non-overlapped clock signal of Group III. See MPEP § 806.05(d).

Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are

shown to be separately usable. In the instant case, invention II has separate utility such as an optical receiver and does not require a first latch unit for latching received serial data in units of  $n+N-1$  (where  $N$  is a positive integer greater than or equal to 3) bits in parallel in response to the first through  $n$ -th non-overlapped clock signals, and for outputting  $N$   $n$ -bit latched state data having the time difference of a predetermined offset therebetween; a second latch unit for latching in parallel the  $N$  state data in response to an  $X$ -th ( $1 < X < n$ ) non-overlapped clock signal having the greatest timing margin among the first through  $n$ -th non-overlapped clock signals; and a synchronizer for outputting state data from which the synchronous signal is detected, among data latched by the second latch unit, as restored information data, in response to a predetermined synchronous existence signal and the  $X$ -th non-overlapped clock signal of Group III.

See MPEP § 806.05(d).

3. Claims 1-9 link(s) inventions I, II, and III. The restriction requirement among the linked inventions is **subject to** the nonallowance of the linking claims(s), claims 1-9. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions **shall** be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is

withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 Fl2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP §804.01.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trang U. Tran** whose telephone number is (703) 305-0090.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller**, can be reached at (703) 305-4795.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

TT TT  
September 9, 2003



MICHAEL H. LEE  
PRIMARY EXAMINER